

What is claimed is:

1. A heat storage apparatus comprising:

a heat storage material accommodation cell for
accommodating therein a heat storage material having an
5 electricity conductive characteristic and configured to be
electrically heated; and

a fluid passageway for allowing a heat exchanging fluid
to flow therethrough, the fluid passageway being adjacent to
the heat storage material accommodation cell via a bulkhead,
10 wherein heat held in the heat storage material is
transferred to the heat exchanging fluid so as to be taken out
of the heat storage apparatus,

and wherein the heat storage material accommodation cell
and the fluid passageway are put in a spiral configuration
15 together with the bulkhead in a heat storage main body of the
heat storage apparatus.

2. A heat storage apparatus as set forth in Claim 1, wherein
the heat storage material has a property in which electric
20 resistance increases drastically when the heat storage material
changes its phase from a solid to a liquid.

3. A heat storage apparatus as set forth in Claim 1 or
2, wherein the heat storage main body is a cylindrical body
25 in which the heat storage material accommodation cell and the

fluid passageway are made to open in both end faces thereof, and wherein both the end faces of the cylindrical body are closed with a top lid and a bottom lid, respectively.

5 4. A heat storage apparatus as set forth in Claim 3, wherein the heat storage main bodies are arranged in series via an intermediate plate.

10 5. A heat storage apparatus as set forth in Claim 3, wherein an energizing lead pattern is provided on at least one of the lids, the lead pattern including a spiral pattern.

15 6. A heat storage apparatus as set forth in Claim 4, wherein an energizing lead pattern is provided on at least one of the lids and the intermediate plate, the lead pattern including a spiral pattern.